III. Health Status of Mississippi Population

The *State Health Plan* serves as a resource in helping to improve the health status of the people of the state. One of the first steps toward achieving this objective is to establish a base line of data to determine the current health status of the people. No universally accepted definition of "health" exists. The World Health Organization defines health as ... "a state of complete physical, mental, and social well being; not merely the absence of disease or infirmity." This definition implies that everyone, including the ill or disabled, should have the opportunity to live up to his or her own potential.

In assessing of the health status of Mississippians, the *State Health Plan* focuses on mortality, natality, and morbidity factors. Where data are available, the *Plan* contrasts Mississippi data to the United States. The *Plan* also discusses significant variations within the state by age, race, sex, or geographic area. The Office of Health Informatics of the Mississippi Department of Health (MDH) compiles the relevant information for this chapter. In most cases, 2003 statistics are the most current available.

Natality Statistics

Live Births

Mississippi experienced a 2.0 percent increase in live births from the previous year. In 2003, live births numbered 42,321, compared to 41,511 registered in 2002. Of these, 54.6 percent (23,118) were white and 45.4 percent (19,203) were nonwhite. Table III-1 provides birth data for the last five years.

A physician attended 97.8 percent of all in-hospital live births delivered in 2003 (41,377). Nurse midwife deliveries accounted for 774 live births, a decrease of 9.4 percent from the 854 reported in 2002. The nurse midwife deliveries were 1.7 percent (388) for whites and 2.0 percent (386) for nonwhites.

More than 99 percent of expectant mothers received some level of prenatal care in 2003. Twelve percent (5,096) were in the second trimester before receiving care and 4.8 percent (785) were in the third trimester. These proportions have not changed significantly since the 1980's. White mothers usually receive initial prenatal care much earlier in pregnancy than do nonwhites.

More than 99 percent of the live births occurred in the 15 to 44 years age group. Births to unmarried women made up 47.0 percent (19,890) of all live births in 2003, of these, 71.3 percent (14,181) were nonwhite. Mothers under the age of 15 gave birth to 154 children; 83.1 percent (128) were nonwhite.

Gender ratios of live births have remained unchanged for several years. In 2003, 51.1 percent (21,640) of the births were male and 48.9 percent (20,681) female. August, October, and December were the peak months for births in 2003.

The birth rate in 2003 was 14.7 live births per 1,000 population; the fertility rate was 67.8 live births per 1,000 women aged 15-44 years. Table III-1 and Figures III-1 and III-2 provide information on birth and fertility rates by race for the past five years.

The MDH uses birthweight and gestational age obtained from birth certificates to monitor fetal development. Low birthweight — less than 5.5 pounds (2,500 grams) at birth, and prematurity — gestation age less than 37 weeks, are factors relating to inadequate prenatal care, poor nutrition, lack

of formal education, abject socioeconomic status, smoking, alcohol or drug abuse, and age of the mother. In 2003, 22.0 percent of births were either low birthweight or premature. These indicators differ markedly by race of the mother. Low birthweight was 74.4 percent higher among nonwhite mothers: 8.6 for whites against 15.0 percent for nonwhites. The rate of births that were either low birthweight or premature was 45.6 percent higher among nonwhite mothers (18 percent for whites versus 26.8 percent for nonwhites). National studies have shown that teenagers are more likely to deliver low birthweight babies, and this is the case in Mississippi. In 2003, 13.8 percent of the births to teenagers were low birthweight, and 18.5 percent were premature. The low birthweight rate for white teens was 10.5 percent compared to a rate of 16.1 percent for nonwhites, creating a difference of 53.3 percent.

A total of 594 congenital malformations were reported in 2003 for a rate of 14.04 per 1,000 live births. Other musculoskeletal/integumental anomalies was the category most frequently reported at 33.3 cases per 10,000, followed by polydactyly/syndactyl/adactylia at 22.0, and malformations of the heart at 12.3. Since 1980, malformation of the musculoskeletal system remains at, or near, the top of the anomalies reported at birth in Mississippi. The rates were 17.3 cases per 10,000 for whites and 52.6 cases per 10,000 for nonwhites, an increase of more than 204 percent. It should be noted that congenital anomalies are not well reported in the birth certificate. Many of these are not detected for months or even years after birth. The birth defect registry, currently being implemented, will provide a much more accurate assessment of the incidence of congenital anomalies.

Table III-1
Live Births, Birth Rates, and Fertility Rates
1999-2003

	1999	2000	2001	2002	2003
Live Births	**42,678**	**44,075**	**42,277**	**41,511**	**42,321**
Percent Change	(0.6)	3.3	(4.1)	(1.8)	2.0
White	22,652	23,540	22,798	22,620	23,118
Non-White	20,026	20,535	19,479	18,891	19,203
Birth Rates[1]	**15.4**	**15.5**	**14.9**	**14.5**	**14.7**
White	13.1	13.5	13.1	12.8	13.1
Non-White	19.3	18.7	17.7	17.0	17.2
Fertility Rates[2]	**67.9**	**69.4**	**66.6**	**65.7**	**67.8**
White	62.3	65.0	63.0	63.0	65.4
Non-White	75.5	75.2	71.4	69.2	70.9

[1] Live Births per 1,000 total population
[2] Live Births per 1,000 females, 15 to 44 years old

Source: *Vital Statistics Mississippi, 2003*, Mississippi Department of Health, Office of Health Informatics

Figure III-1
Birth Rates, Mississippi 1999 to 2003
(Live Births per 1,000 Population)

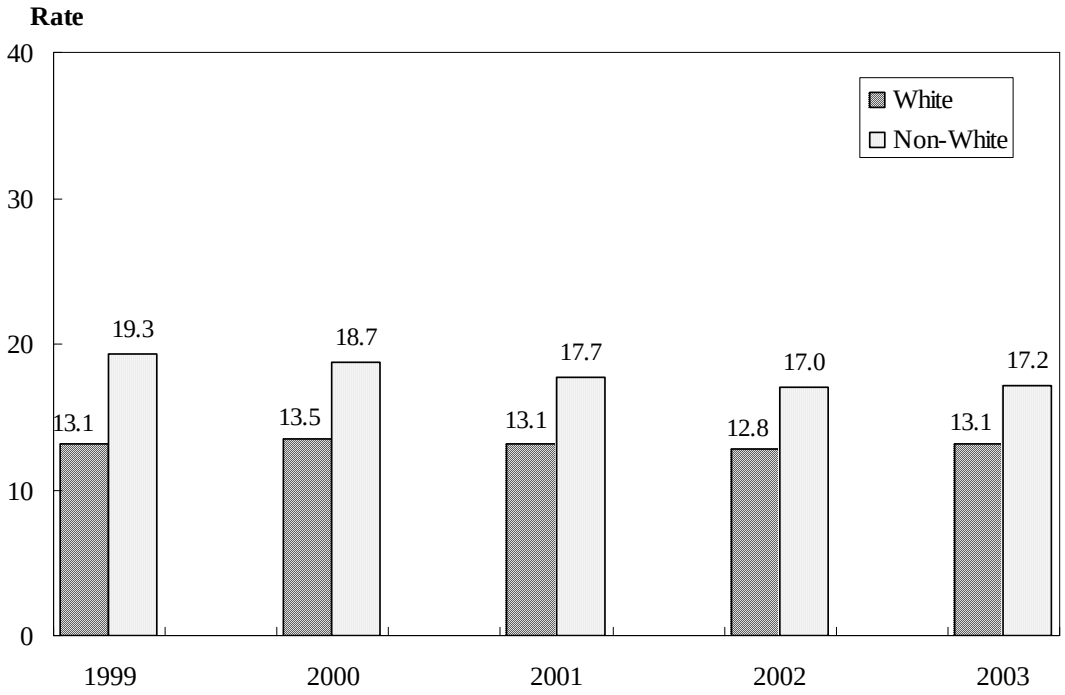
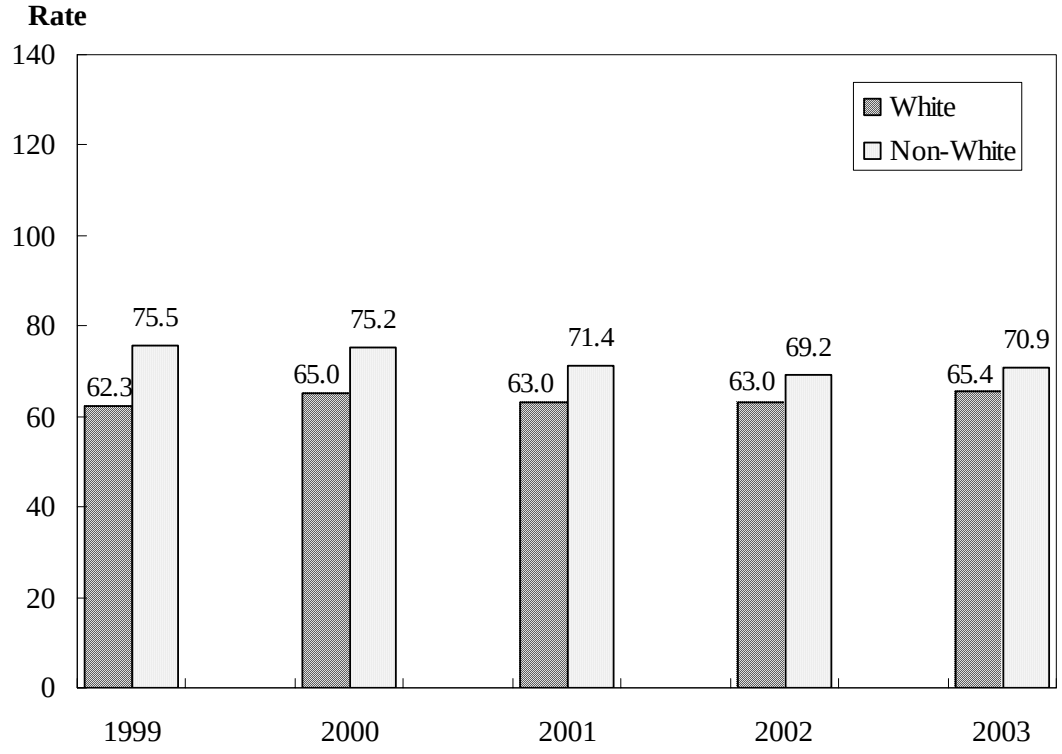


Figure III-2
Fertility Rates, Mississippi 1999 to 2003
(Live Births per 1,000 Population)



Babies Born to Mothers-At-Risk

Almost 73 percent of the live births in 2003 were associated with "at risk" mothers — 30,760 of the 42,321 total births, according to the Mississippi Department of Health. The top ten counties for percentage of those born to mothers-at-risk are: Jefferson, Holmes, Humphreys, Leflore, Issaquena, Claiborne, Yazoo, Quitman, Sunflower, and Tallahatchie. "At risk" factors include mothers:

- who are under 17 years of age or above 35 years of age;
- who are unmarried;
- who completed fewer than eight years of school;
- who had fewer than five prenatal visits;
- who began prenatal care in the third trimester;
- who have had previous terminations of pregnancy; and/or
- who have a short inter-pregnancy interval (prior delivery within 11 months of conception for the current pregnancy).

Mississippi experiences the highest percentages of births to teenagers in the nation, at 16.0 percent of all live births — a total of 6,769 children in 2003, a decrease from the 7,152 reported in 2002 (17.2 percent) of live births.

Mortality Statistics

Fetal Deaths

In 2003, Mississippi reported 417 fetal deaths, an increase from 394 reported in 2002, and from the 376 reported in 2001. The fetal death rate for nonwhites has been more than double that of whites for the past several years and in 2003 it was almost triple, with 15.4 per 1,000 live births for nonwhite compared to 5.2 for whites.

Mothers age 40-44 had the highest fetal death ratio at 23.8 per 1,000 live births, followed by mothers aged 35-39, with a rate of 11.6. Next were mothers aged 15-19, having a rate of 10.7 The MDH requires the reporting of fetal deaths with gestation of 20 or more weeks or fetal weight of 350 grams or more.

Maternal Deaths

Maternal mortality refers to death resulting from complications of pregnancy, childbirth, or the puerperium within 42 days of delivery. Seven such deaths were reported during 2003, a decrease from nine reported in 2002. Some health care professionals believe that maternal deaths are under-reported.

Infant Deaths

Mississippi experienced 453 deaths of infants — children less than one year of age — during 2003, with 295 of those (65.14 percent) to non-white infants. The total included 246 neonatal deaths (within the first 27 days) and 207 post-neonatal deaths (28 days to less than one year).

Sudden infant death syndrome (95); disorders relating to short gestation and unspecified low birth weight (84); congenital malformation, deformity, and chromosomal abnormalities (64); bacterial sepsis of newborn (20); and accidents (16) constituted the five leading causes of infant deaths, 61.6 percent of all infant deaths, in Mississippi during 2003. Table III-2 presents the number of infant deaths and death rates for selected causes by race.

Approximately 56 percent of the neonatal deaths were from disorders relating to short gestation and unspecified low birthweight (80), congenital anomalies (39), and bacterial sepsis of newborn (18). More than 61 percent of the post-neonatal deaths were related to sudden infant death syndrome (88), congenital anomalies (25), and accidents (15).

Infant Mortality Rate

Overall, the infant mortality rate in Mississippi has declined since 1980, although there have been variations from year to year. Figure III-3A shows the year 2003 mortality rate for nonwhite infants more than twice that for white infants — 15.4 deaths per 1,000 live births to 6.8 for whites. This difference is comparable to national figures. Many researchers believe that inadequate prenatal care among nonwhite mothers accounts for much of the disparity, as deficient care often results in low birthweight.

Figures 3B and 3C show the trend of neonatal mortality and post-neonatal mortality for the past five years. In 2003 nonwhite infants had a neonatal mortality rate of 8.7 deaths per 1,000 live births, and white infants had a rate of 3.4 deaths per 1,000 live births. The post-neonatal mortality rate was 6.6 for nonwhite infants and 3.5 for white infants.

In the five-year period 1999 to 2003, 36 counties in Mississippi had five-year average infant mortality rates above the five-year state average of 10.5 per 1,000 live births. None of the ten counties with the highest average infant mortality rates for the last five years had lower rates of live births to mothers-at-risk than did the state at large. Issaquena County reported the highest incidence of live births to teenagers and Jasper County reported the highest rate of low birthweight infants. Table III-3 lists the ten counties with the highest average infant mortality rates for this period and which accounted for 8.3 percent of the state's total live births in 2003. Table III-4 presents 2003 data for these counties contrasted with the state.

Table III-2
Deaths and Rates for Infants Under One Year
Selected Causes by Race
2003

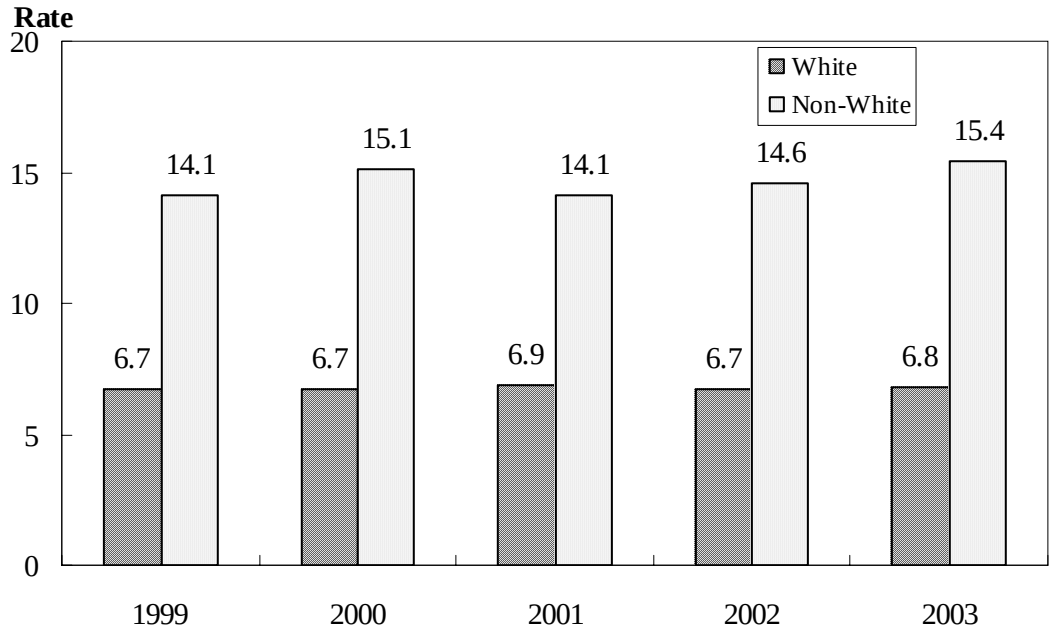
Area	Number			Rate[1]		
	Total	White	Non-White	Total	White	Non-White
All Causes	453	158	295	10.7	6.8	15.4
Sudden Infant Death Syndrome	95	34	61	2.2	1.5	3.2
Disorders relating to Short Gestation and Low Birthweight	84	20	64	2.0	0.9	3.3
Congenital Anomalies	64	30	34	1.5	1.3	1.8
Bacterial Sepsis	20	7	13	0.5	0.3	0.7
Accidents	16	7	9	0.4	0.3	0.5
Respiratory Distress Syndrome	14	5	9	0.3	0.2	0.5
Diseases of Circulatory System	13	2	11	0.3	0.1	0.6
Maternal Complications of Pregnancy	12	7	5	0.3	0.3	0.3
Septicemia	11	0	11	0.3	0.0	0.6
Intrauterine Hypoxia and Birth Asphyxia	10	4	6	0.2	0.2	0.3
Neonatal Necrotizing Enterocolitis	8	2	6	0.2	0.1	0.3
Influenza and Pnuemonia	7	4	3	0.2	0.2	0.2
Complications of Placenta, Cord, and Membranes	6	3	3	0.1	0.1	0.2
Pulmonary Hemorrhage originating in Perinatal Period	5	0	5	0.1	0.0	0.3
Neonatal Hemorrhage	5	2	3	0.1	0.1	0.2
Meningitis	4	1	3	0.1	0.0	0.2
Gastritis, Duodenitis, and Non-Infective Enteritis and Colitis	4	1	3	0.1	0.0	0.2
Assault (homicide)	4	2	2	0.1	0.1	0.1
Congenital Pnuemonia	3	0	3	0.1	0.0	0.2
Renal and Other Disorders of Kidney	3	0	3	0.1	0.0	0.2
All Other Causes	65	27	38	1.5	1.2	2.0

[1]Rate per 1,000 live births

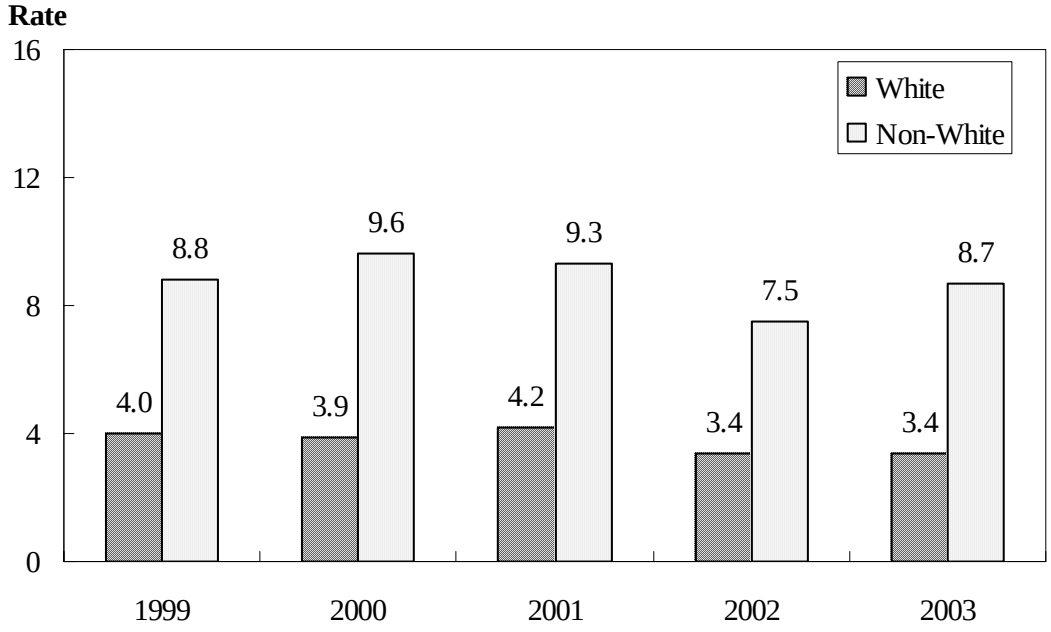
Source: *Vital Statistics Mississippi, 2003,* Mississippi Department of Health, Office of Health Informatics

Figure III-3
Mortality Rates Among White and Nonwhite Infants,
Mississippi 1999 to 2003

3A
Infant Mortality



3B
Neonatal Mortality



3C
Postneonatal Mortality

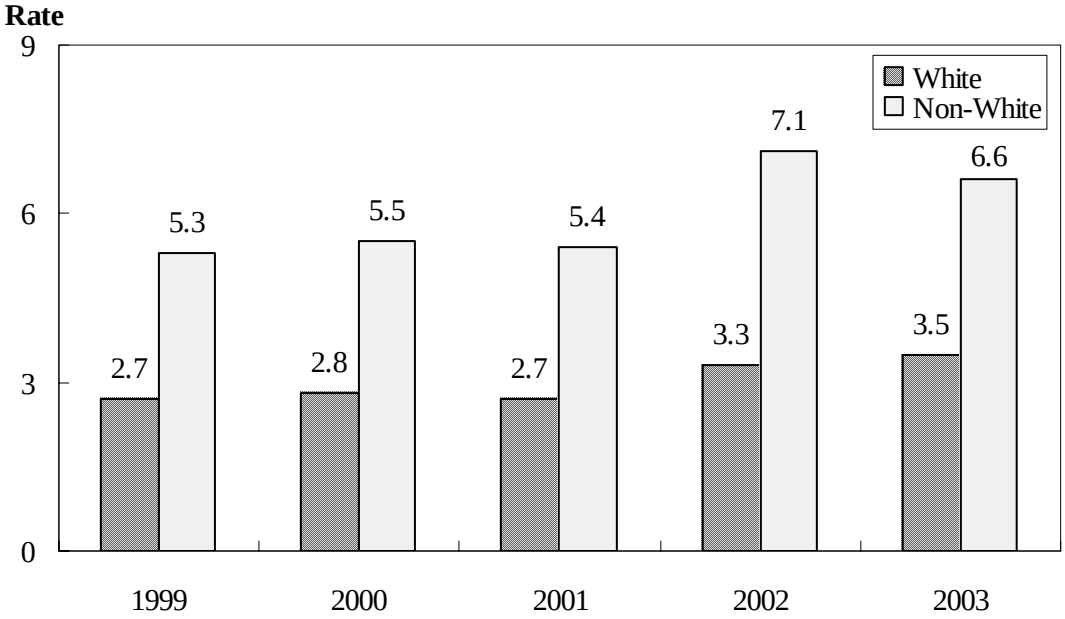


Table III-3
Mississippi Counties
Experiencing the Highest Infant Mortality Rate
1999 to 2003 (5-Year Average)

State/County	Rate[1]		
	Total	**White**	**Non-White**
Mississippi	**10.5**	**6.8**	**14.8**
Tunica	20.5	13.7	21.8
Coahoma	17.7	6.6	19.8
Noxubee	17.6	4.1	21.6
Copiah	17.3	8.0	23.8
Sunflower	17.2	8.2	19.3
Kemper	16.2	5.2	20.7
Leflore	16.2	6.4	18.8
Clay	15.6	9.6	18.4
Scott	15.6	13.5	18.2
Humphreys	15.5	0.0	18.4

[1]Rate per 1,000 births

Source: *Vital Statistics Mississippi, 2003*, Mississippi Department of Health, Office of Health Informatics

Table III-4
Selected Data for Counties in Mississippi Having The Highest 5-Year Infant Mortality Rates
2003

State/County	Births to Mothers at Risk		Births to Teenagers		Low Birthweight Births	
	Number	Rate[1]	Number	Rate[1]	Number	Rate[1]
Mississippi	**30,760**	**726.8**	**6,769**	**159.9**	**4,858**	**111.9**
Clay	230	807.0	51	178.9	32	112.3
Coahoma	460	861.4	129	241.6	67	125.5
Copiah	341	793.0	77	179.1	72	167.4
Humphreys	181	909.5	48	241.2	28	140.7
Kemper	101	759.4	18	135.3	15	112.8
Leflore	553	900.7	148	241.0	83	135.2
Noxubee	160	816.3	36	183.7	35	178.6
Scott	370	783.9	89	188.6	64	135.6
Sunflower	406	871.2	121	259.7	63	135.2
Tunica	172	864.3	43	216.1	28	140.7
Total	**2,974**	**843.0**	**760**	**221.1**	**487**	**138.0**

[1]Rate per 1,000 live births in the specified area

Source: *Vital Statistics Mississippi, 2003,* Mississippi Department of Health, Office of Health Informatics

Deaths and Death Rates

There were 28,333 deaths reported in 2003, for a death rate of 9.8 per 1,000 population. The largest proportion of deaths occurred among whites aged 65 and older, at 49.4 percent (14,007) of the total. Non-whites in the same age group accounted for 19.0 percent (5,373).

The ratio of deaths for white males to white females in the age group 15-44 was 1.7 to one with 777 males versus 462 females. The ratio of nonwhite males to nonwhite females in the same category was 1.6 to one. The overall death rate of females to males was one to 1.004. The following section discusses the cause of death for specific age groups.

Age-adjusted death rates allow comparisons between populations of differing age distributions. For the purpose of the *State Health Plan*, the age-adjusted death rate is based on the United States population in 2000. Table III-5 shows the Mississippi age-adjusted death rates for 2003. The total age-adjusted rate was 10.5 per 1,000 population: 9.7 per 1,000 whites and 11.7 per 1,000 non-whites.

Table III-5
Age-Adjusted Death Rates[1]
by Age and Race in Mississippi
2003

	Number			Rate[1]		
Age Group	**Total**	**White**	**Non-White**	**Total**	**White**	**Non-White**
Total Deaths	28,333	19,013	9,320			
Crude Rates				9.8	10.8	8.3
Age Adjusted Rates				10.5	9.7	11.7
Age Specific Deaths and Death Rates						
Under 1	453	158	295	10.4	7.1	14.0
1-4	88	38	50	0.5	0.4	0.6
5-9	44	22	22	0.2	0.2	0.2
10-14	65	35	30	0.3	0.3	0.3
15-24	479	260	219	1.1	1.1	1.0
25-34	655	302	353	1.7	1.3	2.3
35-44	1,260	677	583	3.1	2.6	3.8
45-54	2,400	1,276	1,124	6.2	5.1	8.2
55-64	3,504	2,236	1,268	12.9	11.2	17.3
65-74	5,184	3,535	1,649	27.8	24.4	34.8
75+	14,196	10,472	3,724	87.1	86.8	88.1
Unknown	5	2	3	***	***	***

[1] Deaths per 1,000 population in the specified group

Source: *Vital Statistics Mississippi, 2003*, Mississippi Department of Health, Office of Health Informatics

Leading Causes of Death and Death Rates

Ten leading causes resulted in 79.6 percent of all deaths in Mississippi during 2003. Heart disease was the leading cause of death in both Mississippi and the United States. Data on the leading causes of death is presented in Table III-6. Cardiovascular disease (CVD), principally heart disease and stroke, is the leading cause of death in Mississippi and accounted for 30.6 percent of all deaths One in five CVD deaths occurred in Mississippians under 65 years of age. African Americans have higher CVD death rates than whites, and men have higher rates than women.

The mortality rate for malignant neoplasms was 227.18 per 100,000 for whites and 171.6 for non-whites. Cancer of the respiratory and intra-thoracic organs was the most common cause of cancer deaths among both white and non-white males, followed by cancer of the digestive organs and peritoneum. Among females, cancer mortality varied according to race. In white females, death from cancer of the respiratory and intra-thoracic organs ranked first, followed by cancer of the digestive organs and peritoneum and then breast cancer. In non-white females, cancer of the digestive organs and peritoneum ranked first, followed by breast cancer and cancer of the respiratory and intra-thoracic organs.

Non-whites were over four times more likely to die from homicide than were whites. Whites were 1.3 times more likely to die from malignant neoplasms than nonwhites and 3.7 times more likely to die from emphysema and other chronic obstructive pulmonary diseases than were non-whites. The death rate for the ten leading causes was more than 35.9 percent higher in the white population than the non-white population (8.7 and 6.4 per 1,000, respectively).

Table III-6
Number of Deaths, Death Rates, Percent of Total Deaths, and Relative Risk for the Ten Leading Causes of Death
2003

Cause of Death	Number	Death Rate[1]	% of Total Deaths	Relative Risk[2]
All Causes	28,333	983.3	100.0	1.0
Heart Disease	8,662	300.6	30.6	0.7
Malignant Neoplasm	5,924	205.6	20.9	0.8
Cerebrovascular Disease	1,723	59.8	6.1	0.9
Accident	1,647	57.2	5.8	0.7
Emphysema & Other Respiratory Disease	1,385	48.1	4.9	0.3
Pneumonia & Influenza	754	26.2	2.7	0.6
Nephritis, Nephrotic Syndrome & Nephrosis	675	23.4	2.4	1.4
Diabetes Mellitus	671	23.3	2.4	1.4
Alzheimer's Disease	575	20.0	2.0	0.4
Septicemia	537	18.6	1.9	1.1
All Other Causes	5,780	200.6	20.4	1.0

[1] Per 100,000 Population
[2] Rate for nonwhites/rate for whites (i.e. nonwhites vs whites)

Source: *Vital Statistics Mississippi, 2003,* Mississippi Department of Health, Office of Health Informatics

Table III-7
Five Leading Causes of Death by Age Group
And Percent of Deaths by Age Group
2003

Age Group	Cause of Death	Number	Percent	Rate[1]
1 - 4	**All Causes**	**88**	**100.0**	**0.5**
	1. Accident	38	43.2	22.7
	2. Congenital Anomaly	11	12.5	6.6
	3. Homicide	8	9.1	4.8
	4. Malignant Neoplasm	5	5.7	3.0
	5. Septicemia	3	3.4	1.8
	5. Influenza and Pneumionia	3	3.4	1.8
5 - 14	**All Causes**	**109**	**100.0**	**0.2**
	1. Accident	50	45.9	11.8
	2. Malignant Neoplasm	16	14.7	3.8
	3. Congenital Anomaly	5	4.6	1.2
	3. Heart Disease	5	4.6	1.2
	3. Homicide	5	4.6	1.2
15 - 24	**All Causes**	**479**	**100.0**	**1.1**
	1. Accident	248	51.8	55.0
	2. Homicide	67	14.0	14.9
	3. Suicide	40	8.4	8.9
	4. Heart Disease	22	4.6	4.9
	5. Malignant Neoplasm	18	3.8	4.0
25 - 44	**All Causes**	**1,915**	**100.0**	**2.4**
	1. Accident	469	24.5	59.5
	2. Heart Disease	314	16.4	39.8
	3. Malignant Neoplasm	268	14.0	34.0
	4. Suicide	130	6.8	16.5
	5. Homicide	125	6.5	15.8
45 - 64	**All Causes**	**5,904**	**100.0**	**9.0**
	1. Malignant Neoplasm	1,782	30.2	270.2
	2. Heart Disease	1,599	27.1	242.4
	3. Accident	396	6.7	60.0
	4. Cerebrovascular Disease	297	5.0	45.0
	5. Emphysema & Other Respiratory Disease	187	3.2	28.4
65 & Over	**All Causes**	**19,380**	**100.0**	**55.5**
	1. Heart Disease	6,709	34.6	1,920.1
	2. Malignant Neoplasm	3,835	19.8	1,097.6
	3. Cerebrovascular Disease	1,358	7.0	388.6
	4. Emphysema & Other Respiratory Disease	1,179	6.1	337.4
	5. Pneumonia & Influenza	651	3.4	186.3

[1]Deaths From All Causes per 1,000 Population: From Specific Causes per 100,000 Population

Source: *Vital Statistics Mississippi, 2003*, Mississippi Department of Health, Office of Health Informatics

Table III-7 shows the five leading causes of death by age groups. Accidents were the leading cause of death for individuals less than 45 years of age; while malignant neoplasms led for individuals aged 45-64, followed by heart disease, which was also the leading cause of death for individuals aged 65 and older, followed by malignant neoplasms. National death rates from heart disease vary substantially by race and sex, with higher rates among men.

In the 15-24 year age group, 74.1 percent of all deaths were from external causes: accidents, homicide, and suicide. Motor vehicle accidents were associated with 54.0 percent of all deaths from accidents and were the primary cause of accidental death among all age groups, except those under age one. The mortality rate for motor vehicle accidents was highest among the nonwhite male population.

Morbidity Statistics

The term *morbidity* is loosely interchangeable with the terms *sickness, illness,* and *disease* (including injury and disability). Morbidity statistics (prevalence and incidence), therefore, measure the amount of non-fatal illness or disease in the population. *Incidence* measures how rapidly new cases of a disease are developing, whereas *prevalence* measures the total number of cases, both new and long-standing, in the population. Accurate, reliable morbidity data are more difficult and costly to collect, compared to mortality data. Incidence data are available only for cancer. Prevalence data are collected for a limited number of diseases and risk factors through the Behavioral Risk Factor Surveillance System (BRFSS) survey and the Youth Risk Behavior Survey (YRBS). Hospital visit data in a limited geographic area are now being collected for asthma.

Cardiovascular Disease

Cardiovascular disease (CVD) includes coronary heart disease, stroke, complications of hypertension, and diseases of the arterial blood vessels. In addition to causing almost half of all deaths in Mississippi, CVD is the major cause of premature, permanent disability among working adults. Stroke alone disables almost 2,000 Mississippians each year. Overall, approximately six percent of Mississippi adults (171,000 people) report having some kind of CVD, such as coronary heart disease, angina, previous heart attack, or stroke.

Several modifiable risk factors contribute significantly to CVD: smoking, high blood pressure, high blood cholesterol levels, sedentary lifestyle, and being overweight/obese. Three-fourths of adult Mississippians have at least one of these risk factors, and one-third of the population has at least two risk factors. In addition, diabetes is a major independent risk factor for CVD.

Smoking is the single most important modifiable risk factor for CVD. More than one-fourth (26 percent) of adult Mississippians are current smokers (BRFSS, 2003). This figure has been increasing since 2000, after staying constant for many years. Measures of tobacco use among Mississippi high school students are comparable to national figures: 66 percent have smoked cigarettes, compared to 58 percent nationally; 25 percent have smoked cigarettes during the past month, compared to 22 percent nationally; and 12 percent have smoked cigarettes on 20 or more of the past 30 days, compared to 10 percent nationally (YRBS, 2003).

The percentage of adult Mississippians reporting a high blood cholesterol level has changed little since 1990 and currently stands at about 31 percent (BRFSS, 2002). About one-third of adult Mississippians have not had their blood cholesterol level checked within the past five years (BRFSS, 2003).

Mississippi has one of the highest rates of self-reported lack of regular exercise among U.S. adults. In 2003, 60 percent of adult Mississippians did not meet recommended guidelines for moderate physical activity; 80 percent did not meet recommended guidelines for vigorous physical activity; and 30 percent did not participate in any physical activity during the past month. Among Mississippi students, all measures of physical activity are worse (higher) than the national average: 68 percent of Mississippi high school students (87,000 out of 128,000 students) were not enrolled in a physical education class, compared to 44 percent nationally; 77 percent did not attend a physical education class daily, compared to 72 percent nationally; and 47 percent did not participate in vigorous physical activity in the week prior to the survey, compared to 37 percent nationally (YRBS, 2003).

Obesity

Mississippi has had the highest rates of adult overweight and obesity in the nation for many years, and the rates have climbed steadily since 1990. No indication exists that these upward trends will level off any time soon. Overweight is defined as a body mass index (BMI) of 25 to 29.9, and obese is defined as a BMI of 30 or above. In 2003, 35 percent of adult Mississippians were overweight and 27 percent were obese (BRFSS, 2003).

Among public high school youth, the problem is similar. The frequency of overweight students in Mississippi is higher than the national average: 16 percent of Mississippi students are overweight, compared to 12 percent nationally. An additional 16 percent of Mississippi students are at risk of becoming overweight, compared to 15 percent nationally (YRBS, 2003). Mississippi ranks number two (second highest) in the nation for rates of overweight in high school students (YRBS, 2003). Overweight and obesity have become one of the state's most important and pressing public health problems, and the high and increasing rate of diabetes in the state is largely a consequence of the increasing rate of obesity.

Hypertension

Hypertension (high blood pressure) is a major risk factor for coronary heart disease (CHD) and heart failure, and it is the single most important risk factor for stroke. The high (and rising) prevalence is very likely an important reason for the high CHD and stroke mortality rates in the state. Mississippi is one of 11 states in the southeast region of the U.S. known as the "Stroke Belt"; this region has for at least 50 years had higher stroke death rates than other U.S. regions.

In 2003, 33 percent of adult Mississippians had hypertension (BRFSS, 2003). This also is an important and serious public health problem in Mississippi – not only because of the high frequency of this condition in the population, but also because of the many problems related to treatment and control. Studies elsewhere have shown that many patients with hypertension are not receiving treatment, for various reasons, and that many of those who are being treated are not getting their blood pressures adequately controlled.

Diabetes

The 2003 prevalence of diabetes in Mississippi was 11.0 percent; the state's prevalence ranked highest in the nation in 2003 (most recent national comparisons available), with a rate about 53 percent higher than the national average of 7.2 percent. Diabetes is the primary cause of macrovascular disease, stroke, adult blindness, end-stage renal disease, and non-traumatic lower extremity amputations. Diabetes is also an important risk factor for coronary heart disease, stroke, and various complications of pregnancy.

Asthma

Asthma is the sixth-ranking chronic condition in the nation and one of the most common chronic diseases in children. It is the number one cause of school absences caused by a chronic condition. Mississippi currently has no tracking systems in place for documenting actual asthma cases; the best estimates at this time are extrapolated from national estimates. In 2003, 11 percent of adult Mississippians had a history of asthma; of these, seven percent still had asthma.

Recently the MDH began collecting hospital visit data for asthma in the three-county Jackson metropolitan area (Hinds, Madison, and Rankin counties); statewide data are not yet collected. These data show marked white/nonwhite disparities at all ages. The overall "prevalence" rate of unduplicated hospital visits for asthma in 2003 was 961 per 100,000 (crude) and 943 per 100,000 (age-adjusted). Nonwhite females had the highest age-adjusted rate, 2.7 times that of white females. Nonwhite males had an age-adjusted rate 3.7 times that of white males.

Cancer

Each year, more than 15,000 Mississippians are diagnosed with cancer. In order of frequency, the top five sites of cancer diagnosis for 2003 were lung, breast, prostate, colorectal, and bladder. Cancer caused 5,924 deaths to Mississippians during 2003. Lung cancer is the most common cause of cancer death; much of this cancer is due to cigarette smoking.

Communicable Diseases

Tuberculosis

Mississippi has historically exceeded the national new case rate of tuberculosis each year. The state had 119 new cases in 2004, with a new case rate of 4.2 per 100,000 population. Approximately 85 percent of the new cases were pulmonary tuberculosis. Tuberculosis was diagnosed two times as frequently in males as females. Of the 119 reported cases, 82 (68.9 percent) were non-white, 37 (31.1 percent) were white.

Other Communicable Diseases

Table III-8 lists the reported cases of selected communicable diseases for 2002-2004. ***Sexually transmitted diseases*** remain a public health problem in Mississippi, although syphilis rates have decreased in recent years. A total of 57 cases of early syphilis were reported in 2004, a slight increase from the 40 cases reported in 2003. Mississippi's case rate has historically been several times higher than the national rate, but remains below the national rate for the fourth year. During 2004, Mississippi demonstrated a prevalence of 1.98 new cases of early syphilis per 100,000 population compared to 2.5 cases nationally. The state had 7,162 cases of gonorrhea reported in 2004. The 18,863 Chlamydia infections shown on Table III-8 are the results of an expansion of testing statewide in 2004.

Acquired Immunodeficiency Syndrome (AIDS) received designation as a legally reportable disease in July 1983. By 1990, AIDS had become the tenth leading cause of death in the United States. Individuals engaging in certain risky behaviors have greater risk of contracting the Human Immune-deficiency Virus HIV – the virus that causes AIDS. These behaviors include sharing needles and/or syringes, having unprotected sex (anal, oral, or vaginal), having multiple sex partners, having a history of sexually transmitted diseases, abusing intravenous drugs, and having sex with a

person engaged in one of these risky behaviors. There were 607 new cases of HIV Disease (HIV infections with or without AIDS and AIDS) reported in 2004.

Hepatitis A is caused by a virus primarily transmitted between individuals through fecal or oral contact or through oral contact with items contaminated by infected human fecal waste. Potential contributing factors include poor personal hygiene, poor sanitation, overcrowding, and fecal contamination of food and water. Another form of hepatitis, ***Hepatitis B***, is transmitted by percutaneous or permacosal exposure to infected blood or blood products, sexual intimacy, and inutero maternal-infant contact. The ***Hepatitis C*** virus is transmitted through percutaneous or permacosal exposure to infected blood, e.g. shared needles. There were 20 reports of Hepatitis A, 107 reports of Hepatitis B, and 33 reports of Hepatitis C in Mississippi during 2004.

Meningitis is an inflammation, usually due to infection of the piarachnoid and the fluid it contains. Infecting agents include viruses, bacteria, fungi, or parasites. The disease involves both the brain and the spinal cord; and in bacterial meningitis, the outcome is potentially fatal. Meningitis is more common in the first year of life. Infants less than one year old have an incidence rate 6.5 times higher than children one to four years old and 38 times higher than children five to nine years old.

Viral Meningitis, as the name suggests, is caused by a virus. It is usually self-limiting and seldom fatal. The incidence of meningitis usually peaks in the late summer and fall. Cases of meningitis increased from 81 in 2003 to 93 in 2004.

Salmonellosis is an infection caused by the ingestion of organisms from the *Salmonella* species. Symptoms of the disease are severe diarrhea, cramps, and fever. The MSDH received 904 reports of salmonellosis cases in 2004, a 13.1 percent decrease from the 1,041 cases reported in 2003.

Shigellosis has symptoms and modes of transmission similar to salmonellosis. The infection increased dramatically from a low of 63 reported cases in 1998 to 347 cases in 2002; then declined to 54 new cases in 2004.

Table III-8
Reported Cases of Selected Communicable Diseases
2002 - 2004

Diseases	2002	2003	2004
Sexually Transmitted Diseases			
Primary and Secondary Syphilis	48	40	57
Other Syphilis	152	393	128
Chlamydia	11,816	12,193	18,863
Gonococcal Infections	6,860	6,328	7,162
HIV Disease	491	452	607
Viral Hepatitis			
Type A	62	47	20
Type B	95	110	107
Type C (Non-A, Non-B)	91	50	33
Enteric Diseases			
Salmonellosis	1,180	1,041	904
Shigellosis	347	174	54
Campylobacter Disease	108	109	113
Central Nervous System Diseases and Other Invasive Diseases			
Viral Meningitis	49	81	93
Invasive Meningococcal Infections	20	24	19
Invasive H. Influenza Meningitis	3	4	0
Other Diseases			
Rocky Mountain Spotted Fever	11	10	3
Animal Rabies (bats only)	4	4	11

Source: *Mississippi Provisional Morbidity Report, June 2004*, Mississippi Department of Health

Occupational Injuries and Illnesses

The Mississippi Worker's Compensation Commission produces an annual report on work place injuries and illnesses using information compiled from accident report forms that employers must submit to the Commission. The report shows that work-related injuries and illnesses place significant demands on industry. Such information helps industry to focus on safe work practices and injury prevention through the implementation of safety programs.

Statistical highlights of the Commission's *2003 Annual Report of Occupational Injuries and Illnesses* (most recent available) are as follows:

- During 2003, 86 employees suffered fatalities.
- Employees sustained 13,413 work-related injuries or illnesses that resulted in absence from work for six or more work days during 2003.
- Injuries to females were reported less frequently than males, with 5,260 claims (39.2 percent).
- Strains remained the most common type of injury, with 4,396 claims (32.8 percent).
- Pain in the lower back (the part of the body most often affected) resulted in 2,081 claims (15.5 percent).
- Hinds County had the highest number of reported occurrences with 1,766 claims (13.2 percent).
- Injuries or illness associated with lifting accounted for 1,961 claims (4.6 percent).
- Major injuries or illnesses occurred on Monday more than any other day of the week with 2,561 claims (19.1 percent). August reports exceeded other months with 1,244 claims (9.3 percent), followed by July with 1,229 claims (9.2 percent) and October with 1,192 (8.9 percent).
- Controversial claims totaled 5,800 or 43.2 percent of claims filed.
- Insurance carriers and self-insurers paid a total of $271,552,111 in 2003: $146,113,975 by insurance companies and $125,438,136 by self-insurers.

The top five industries reporting work-related injuries and illnesses during 2003 were:

Table III-9
Industries Reporting Work-Related Injuries
2003

Industry	Number of Job-Related Injuries/Illnesses	Percentage of Total
Services	2,859	21.3
Manufacturing	2,672	19.9
Retail Trade	1,614	12.0
Construction	1,079	8.0
Transportation, Utilities	970	7.2

Expectation of Life at Birth

Statistics show that the average life expectancy of a Mississippi baby born between 1989 and 1991 is 73.1 years. Life expectancy increased by 0.6 years during the previous decade. Racial differences in life expectancy have decreased, but differences in the life expectancy of the sexes have widened each decade.

White females have the longest life expectancy, while non-white males have the shortest. A white female can expect to live about 21 percent longer than a non-white male, a difference of more than eight years. If these rates prevail throughout their lifetimes, almost 95 percent of white females will reach age 50, compared to only 81 percent of non-white males.

Natural Increase

Natural increase (the excess of births over deaths) added an estimated 13,988 persons to Mississippi's population during 2003. The rate of natural increase for the year was 4.9 persons per 1,000 estimated population. Natural increase has declined since 1980, when the rate was 9.6 persons per 1,000 estimated population, although this decline has fluctuated at times. In 2003 the rate of natural increase in the state was 2.3 persons per 1,000 estimated white population and 9.3 persons per 1,000 estimated non-white population.

Minority Health Status

Compared to all other ethnic groups, the *American Medical News* reports that African Americans experience higher rates of illness and death from virtually every health condition–from asthma to diabetes to cancer. African Americans in Mississippi face substantially higher rates of teen pregnancy, births to unmarried mothers, infant mortality, and other health status indicators than do white Mississippians. Some disparities which impact health care include economic and geographic factors.

Mississippi ranked 50th among the states in median family income at $39,520 in 2001 inflation-adjusted dollars. Sixteen percent of Mississippi families live below the poverty level, compared to 9.2 percent for the United States. Poverty dictates a standard of living that diverts all income to the essential needs of food, clothing, and shelter; therefore, it is difficult for the impoverished to afford good quality health care.

Officials estimate that 22 percent of Mississippians have no health insurance. Across all ethnic groups, lack of insurance results in weak connections to health care services. Uninsured persons, in fair or poor health, visit physicians less often than their insured counterparts; they are less likely to receive care needed to manage chronic conditions such as diabetes or high blood pressure. Uninsured children and adults are less likely to receive preventive health services or care for acute conditions.

The frequently cited explanation for the disparity in health care for African Americans is “lack of access to quality health care”. The Henry J. Kaiser Family Foundation commissioned a synthesis of the literature on *Racial and Ethnic Differences in Access to Medical Care* in 1999. For most uninsured persons, low incomes and unemployment make insurance coverage unaffordable without substantial financial assistance. Overall, 57 percent of the uninsured are poor or near poor, with family incomes below 200 percent of the poverty level.

Rural areas, particularly those with a high concentration of poor blacks, often have very few medical resources. This fact further limits access to primary health care. As of July 2005, 65 counties or portions of counties in Mississippi were designated as health professional shortage areas for primary medical care.

Minorities are also under-represented in the health professions. Many medical schools have taken pro-active steps to increase minority representation. According to the Agency for Healthcare Research and Quality, *Strategies to Reduce Health Disparities, 2001 Conference*, Louisiana and Mississippi applications for minorities to enter medical schools declined 17 percent (2.3 times more than the national average). Even more alarming is that the percentage of applicants accepted declined 27 percent (seven times that of the national average). There was also a drop in minority matriculation by 26 percent (six times greater than the national average).

In 2004, only 7.3 percent of Mississippi's total active physicians were black and 6.9 percent were Asians. Based on an estimated non-white population of 1,212,805 (38.9 percent of the total 2010 estimated population), the state has one minority physician for every 1,384 non-white persons. Considering black physicians only, there is one black physician for every 3,133 non-white persons; 298 or 77 percent, of the state's black physicians were primary care physicians.

Key health problems across the life span of blacks in Mississippi include:

Infant Years:	Infant Mortality
Childhood Years:	Accidents Cancer Dental Health Poor Nutrition
Teenage/Young Adult Years:	Teenage Pregnancy Drugs Motor Vehicle Accidents
Mature Adult Years:	Homicide Accidents
Elderly Years:	Heart Disease Stroke Hypertension Diabetes Cancer